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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,492	02/22/2002	Jan-Olof Joel Weststrom	980.1373US01	8498

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ALTERA LAW GROUP, LLC  
6500 CITY WEST PARKWAY  
SUITE 100  
MINNEAPOLIS, MN 55344-7704

EXAMINER

NGUYEN, TUAN M

ART UNIT PAPER NUMBER

2828

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/080,492

Applicant(s)

WESSTROM, JAN-OLOF JOEL

Examiner

Tuan M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

*Paul IP*  
PAUL IP  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because the detailed description recites the reflector (100) may be tuned col. 4 line 17. It is unclear as how is the reflector (100) can be tuned. Further in col. 4 line 18 recites injecting charge carriers into the layer (102), it is unclear how to injected charge carriers and whether they are electric current <sup>or</sup> optical signal? Furthermore in the last paragraph (col. 4). It is unclear how the light is coupled from 202 to 204? Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding to claims 1 and 9, claims recite a tunable laser filter that includes a waveguide formed from tunable material and an amplifying material disposed in a parallel relationship having different compositions. Further, claim 1 recites injecting charge carriers into the tunable material and amplifying material simultaneously so that the amplifying material provides gain to light propagating along the tunable material waveguide and so that the reflective index of the tunable material is changed to a desired value. The claims fail to define the difference between a tunable laser and a tunable waveguide microelectric structure and its operational functions of

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compensating for loss. The claims also fail to provide any means, any laser structure, structural relationship to support a tunable laser filter which renders the claim confusing, vague and indefinite. Further the claims recite tunable material/amplifying material. The claims fail to define as what kind of material can be use for tunable material and amplifying material. It is also unclear as how the amplifying material is being used for amplifying which render the claims confusing, vague and indefinite.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sahlen ('866).

With respect to claims 1-3, 9-12, and 19-20 Sahlen discloses optical waveguide/grating device for filtering optical wavelength comprising a tunable waveguide (6) formed from a tuning material, and an active material (5) is consider as an amplifying material having a composition different from the composition of the tuning material, the active material disposed in a parallel relationship with the tunable waveguide so as to amplify light propagating along the tunable waveguide., note cols. 3 line 51 to col. 6 line 67, see fig. 1.

With respect to claim 4, Sahlen discloses disposing repeated lengths of amplifying material along a direction parallel to the waveguide, see fig 1.

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With respect to claims 8 and 16, Sahlen discloses amplifying material is InGaAsP, note col. 3.

With respect to claims 5 and 13, Sahlen shown in figure 4 a grating structure formed of sections of grating material regularly spaced along waveguide.

With respect to claims 17-18, Sahlen shown in figure 5 first and second wave guides (21, 22), grating (7'), see fig. 4.

With respect to claims 6-7 and 14-15, Sahlen discloses the InGaAsP/InP for long wavelength about 1.55  $\mu\text{m}$ , note col. 1.

#### **Citation Of The Pertinent References**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Lealman et al (US patent 6,198,863) discloses optical filters

The patent to Baets et al (US patent Re. 36,710) discloses integrated tunable optical filter.

The patent to Jeong et al (US patent 5,937,129) discloses waveguide grating structure having linear and nonlinear waveguiding film.

The patent to Agahi et al (US patent 5,559,912) discloses wavelength selective devices using silicon on insulator.

The patent to Cimini et al (US patent 5,022,730) discloses wavelength tunable optical.

#### ***Communication Information***

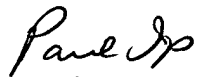
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247.

The examiner can normally be reached on 8am to 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip  
SPE  
Art unit 2828

TMN  
January 25, 2003